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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,759	05/03/2002	Ji-Hwan Pack	073226.0104	8336

5073 7590 02/07/2005

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EXAMINER

DUONG, THANH P

ART UNIT PAPER NUMBER

1764

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/031,759	<b>Applicant(s)</b> PACK, JI-HWAN	
	<b>Examiner</b> Tom P Duong	<b>Art Unit</b> 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) <sup>1-13</sup>~~1-9~~ is/are pending in the application.  
4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed 01/12/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-9, drawn to a regenerative oxidizer, classified in class 422, subclass 177.
- II. Claims 10-13, drawn to method of removal of pollutants from waste gas, classified in class 432, subclass 180.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the method of removing pollutants from the gas stream can be

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done by absorption, wet scrubbing, and/or condensation method other than regenerative oxidizing.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Chuck Fish on 02/02/2005 a provisional election was made without traverse to prosecute the invention of I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### **DETAILED ACTION**

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (5,967,771). Regarding claim 1, Chen discloses a regenerative oxidizer (10), for removal of pollutants from waste gas (Col. 3, lines 6-12) comprising: an elongated housing (12) having an inlet duct (32) and an outlet duct (34); a heat media bed (54 and Col. 6, lines 32-35) disposed circumferentially within the housing (12); a combustion chamber (16) equipped with a burner or electric heater (18); a distribution cylinder (38) disposed in the center of the housing (12); a separator (44, and Col. 5, lines 44-50) which is in contact with the heat media bed (54) and the lower section isolated by the inlet chamber (32); and a rotor (40) disposed within the distribution cylinder (38). Regarding claim 2, Chen discloses a catalyst bed (48 or 52) is disposed circumferentially above the heat media bed (50 or 54) (Col. 6, lines 46-58). Regarding claim 3, Chen discloses the separator (44) consists of a cylindrical outer wall which fits to the inner wall of the housing (12) and is divided into multiple cells by isolating plates (44). Regarding claim 6, Chen discloses a separate purge section (34) is disposed within the rotor between the influent distribution zone (32) and the effluent zone (36 and Fig. 3). Regarding claim 7, Chen discloses the dividing plates 44 radially spanning the RCO 40 (as best understood by examiner) constitutes the vertical partition of the claimed invention. Regarding claims 8 and 9, Chen discloses the dividing plates 44 are sealed either pneumatically, hydraulically, physically or other methods known in the art including Teflon, spring devices or O-rings (Col. 5, lines 50-540).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (5,967,771) in view of Inuki et al. (6,298,877). Regarding claim 4, Chen fails to disclose a rotor consists of a rotor cylinder having multiple distribution wings (55, 56), a rotor cover (50) surrounding the distribution wings (55, 56) and outlet hole (31c) connected to the outlet duct (34). The distribution wings (55, 56) aid in supporting the rotor structure and distributing the gas stream (Col. 6, lines 37-44). Thus, it would have been obvious in view of Inuki to one having ordinary skill in the art to modify the rotor of Chen with a rotor having distribution wings as taught by Inuki in order to provide a means for supporting the rotor and a means for distributing the gas stream. Regarding claim 5, Inuki shows the distribution wings (55, 56) having an upper (31a) and lower (51a) outlet hole and approximately one half of the distribution wings (55, 56) are covered by a rotor cover (50) as shown on Fig. 4A.

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong  
February 4, 2004

TD

  
Glenn Caldarola  
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